

Claims

1. A heat exchanger plate for a plate heat exchanger (1), wherein the plate (3) includes  
5 a heat transfer area (20) and  
a border area (22), which is located outside the heat transfer area (20) and which extends along and delimits the heat transfer area (20),  
characterized in that  
10 a curable polymer material is applied to and cured on the border area (22) in such a way that it extends along the whole or parts of the border area and is arranged to form a gasket (30, 50) for tight abutment against an adjacent plate (3) in the plate heat exchanger (1).  
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2. A heat exchanger plate according to claim 1, characterized in that the curable polymer material includes silicon.
3. A heat exchanger plate according to claim 2, characterized in that the curable polymer material includes Liquid Silicon Rubber.  
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4. A heat exchanger plate according to any one of the preceding claims, characterized in that the curable polymer material after curing forms a lower, substantially plane surface (31) which is  
25 attached directly to the border area (22).
5. A heat exchanger plate according to claim 4, characterized in that the curable polymer material after curing includes an upper surface (32) which in a cross section has a softly curved, convex  
30 shape.
6. A heat exchanger plate according to any one of the preceding claims, characterized in that the curable polymer material includes a first component and a second component, which are mixed to an  
35 applicable polymer mixture.

7. A heat exchanger plate according to claim 6, characterized in  
that the applicable polymer mixture before curing is highly viscous.
8. A heat exchanger plate according to claim 7, characterized in  
5 that the applicable polymer mixture has a viscosity which amounts  
to between 300 and 800 Pas.
9. A heat exchanger plate according to any one of the preceding  
claims, characterized in that the border area (22) includes a bottom  
10 surface (25) along substantially the whole border area and at least  
a first side surface (26) which extends along the whole border area  
and between the bottom surface and the heat transfer area (20),  
wherein the first side surface forms an angle to the bottom surface.
- 15 10. A heat exchanger plate according to claim 9, characterized in  
that the border area (22) includes a second side surface (27), which  
extends along the whole border area outside the bottom surface  
(25), wherein the second side surface forms an angle to the bottom  
surface.
- 20 11. A heat exchanger plate according to any one of the preceding  
claims, characterized in that the plate (3) includes an edge area  
(23), which is located outside the border area (22) and which  
extends around and limits the border area.
- 25 12. A heat exchanger plate according to claims 10 and 11,  
characterized in that the second side surface (27) extends between  
the bottom surface (25) and the edge area (23).
- 30 13. A plate heat exchanger including a package (2) with heat  
exchanger plates (3) according to any one of the preceding claims.
14. A method for manufacturing a heat exchanger plate, including  
the steps of:  
35 providing a sheet,  
cutting and forming the sheet to a heat exchanger plate with a heat  
transfer area, which has a number of open portholes, and a border

area, which is located outside the heat transfer area and which extends along and delimits the heat transfer area, characterized by the steps of:

application of a curable polymer material to the border area in such a way that it extends along the whole or parts of the border area, and

curing the polymer material for forming of a gasket for tight abutment against an adjacent plate in the plate heat exchanger.

15. A method according to claim 14, characterized in that the curable polymer material includes silicon.

16. A method according to claim 15, characterized in that the curable polymer material includes Liquid Silicon Rubber.

17. A method according to any one of claims 14 to 16, characterized in that the curable polymer material includes a first component and a second component, wherein the method substantially immediately before said application includes the step of:

mixing the two components to an applicable polymer mixture.

18. A method according to claim 17, characterized in that the applicable polymer mixture before curing is highly viscous.

19. A method according to claim 17, characterized in that the applicable polymer mixture has a viscosity that amounts to amounts to between 300 and 800 Pas.

20. A method according to any one of claims 17 to 19, characterized in that the first component includes silicon and possibly a catalyst, and that the second component includes silicon and an activator, wherein the parts of the two components in the polymer mixture are substantially equal.

21. A method according to claim 20, characterized in that the viscosity of the two components are substantially equal.

22. A method according to any one of claims 14 to 21,  
characterized in that the curable polymer material is applied by  
means of an automatic handling device arranged to carry a nozzle  
5 for the discharge of the polymer material and for guiding the nozzle  
along the border area.

23. A method according to any one of claims 14 to 22,  
characterized in that the curable polymer material is cured at a  
10 raised temperature.

24. A method according to claim 23, characterized in that the  
raised temperature is between 150° C and 250° C.

15 25. A method according to any one of claims 14 to 24,  
characterized in that the curable polymer material is cured during a  
curing time that amounts to at least 0,5 h.